



November 19, 2007

Mr. Robert Hershey
Appoquinimink School District
118 South Sixth Street
Odessa, DE 19730

RE: PLUS review – PLUS 2007-10-02; Appoquinimink School District

Dear Mr. Hershey:

Thank you for meeting with State agency planners on October 24, 2007 to discuss the proposed plans for an 820 student elementary school to be located at the intersection of Bunker Hill Road and Chop Tank Roads.

Please note that this review was for the site feasibility only. Once the site plan is completed it should be submitted to this office for PLUS review. These comments reflect only issues that are the responsibility of the agencies represented at the meeting. The developers will also need to comply with any Federal, State and local regulations regarding this property. We also note that as the Town of Middletown is the governing authority over this land, the school district will need to comply with any and all regulations/restrictions set forth by the Town.

The following are a complete list of comments received by State agencies:

Office of State Planning Coordination – Contact: Herb Inden 739-3090

This proposed parcel for the location of an elementary school is in an Investment Level 2 area and in the Town of Middletown. As such, it is consistent with the *Strategies for State Policies and Spending*. Furthermore, the co-location of this school with the new

high school makes sense as the schools will be able to share common spaces, facilities and services. Our office has no objection to this project.

At the meeting, the district representative asked that the reviewers support his idea of developing other schools on the land adjacent to the high school which is a deed restricted, Transfer of Development Rights (TDR), area of land that is currently being farmed. He was informed that such support would not be possible due to the deed restriction placed on the property which was signed by the Superintendent of the Appoquinimink School District, Dr. Marchio, along with the Mayor of Middletown, Kenneth Branner. This restriction specifically restricts uses per school buildings, as stated in the signed document: "but not a school or a facility used primarily for classroom instruction". As it was explained at the PLUS meeting, restrictions like this are beneficial to the citizens of Delaware because they help preserve our vanishing farm economy, minimize the need for additional infrastructure and services and they help keep sprawl in check.

Division of Historical and Cultural Affairs – Contact: Terrance Burns 739-5685

In reference to this particular parcel, the historic resources at State Historic Preservation Office of the Division of Historic & Cultural Affairs did show and indicate the following:

- There was no indication of a known Archaeological site or National Register listed property on or within parcel (property/project area), but this parcel is still in a vicinity where it is a possibility that there could be a potential archaeological site on this parcel, or nearby it.
- The developer should be aware of Delaware's Unmarked Human Remains Act of 1987, which governs the discovery and disposition of such remains. The unexpected discovery of unmarked human remains during construction can result in significant delays while the process is carried out.
- The developer should be aware of Delaware's Unmarked Human Remains Act of 1987, which governs the discovery and disposition of such remains. The unexpected discovery of unmarked human remains during construction can result in significant delays while the process is carried out.
- Prior to any demolition or ground-disturbing activities, or before any type of construction proceeds the developer may want to hire an archaeological consultant to check or examine this parcel/property for the possibility of a cemetery here, or to see if there are any archaeological sites on it.

The State Historic Preservation Office of the Division of Historic & Cultural Affairs recommends and do hope that the developer will take these comments in to consideration. Also, if the developer would like to discuss this in further detail, contact Mr. Terence Burns, Information Resource Specialist, at the State Historic Preservation Office of the Division of Historic & Cultural Affairs at (302) 736-7400.

Department of Transportation – Contact: Bill Brockenbrough 760-2109

It was discussed at the PLUS meeting that the District would like to create a campus of three schools on land at the rear of the parcel. The development rights for that land have already been sold. The comments below do not address that proposal.

- 1) As part of the Middletown Transportation Infrastructure Development Agreement, the school district is obligated to reserve a 450-foot wide corridor for a future, limited access, alignment of US Route 301. DelDOT is working to identify the specific 300-foot right-of-way that will be needed within that 450-foot reservation. As necessary, the District may contact the Manager of our Route 301 project, Mr. Mark Tudor, for updates on this process. Mr. Tudor may be reached at (302) 760-2275.
- 2) A new entrance plan for the complex, accounting for the additional traffic associated with the elementary school, may be required. Preliminarily, however, do not expect that significant changes will be needed.
- 3) The District's site engineer should contact our Subdivision Manager for southern New Castle County, Mr. Pao Lin, regarding our specific requirements for access and off-site improvements. Mr. Lin may be reached at (302) 760-2157.

The Department of Natural Resources and Environmental Control – Contact: Kevin Coyle 739-9071

Soils

The New Castle County soil survey update indicates that most of the soils on this parcel are well-drained and have few apparent limitations for development.

Wetlands

Based on the Statewide Wetland Mapping Project (SWMP) mapping, palustrine forested wetlands were mapped on the subject parcel. Wetlands provide water quality benefits, attenuate flooding and provide important habitat for plants and wildlife. PLUS materials

indicate that a wetland delineation was conducted and verified through the U.S. Army Corps of Engineers (USACE, or “the Corps”) through the Jurisdictional Determination process.

Impacts to Palustrine wetlands are regulated by the Corps through Section 404 of the Clean Water Act. In addition, individual 404 permits and certain Nationwide Permits from the Corps also require 401 Water Quality Certification from the DNREC Wetland and Subaqueous Land Section and Coastal Zone Federal Consistency Certification from the Division of Soil and Water Conservation, Delaware Coastal Management Program (DCMP) Section. Each of these certifications represents a separate permitting process.

Please be advised that nationwide permits have been suspended in Delaware and are pending further coordination with the Corps. Therefore, contrary to past practices, Coastal Zone Management approval can no longer be assumed. Individual certifications must be granted from the DCMP office for each project intending to utilize a Nationwide Permit. For more information on the Federal Consistency process, please contact the DCMP office at 302.739.9283. To find out more about permitting requirements, the applicant is encouraged to attend a Joint Permit Process Meeting. These meetings are held monthly and are attended by federal and state resource agencies responsible for wetland permitting. Contact Denise Rawding at 302.739.9943 to schedule a meeting.

It is recommended that vegetated buffers of no less than 100 feet be employed from the edge of the wetland complex and other water bodies on site.

Water Resource Protection Areas

The Water Supply Section, Ground Water Protection Branch (GWPB), has determined that a significant portion falls within an excellent ground-water recharge area for the Town of Middletown (see following map and attached map).

The Town of Middletown has yet to develop source water protection ordinances. Their 2005 Comprehensive Land Use Plan expresses the intent to protect excellent-recharge areas by limiting impervious cover.

Excellent Ground-Water Recharge Areas are those areas mapped by the Delaware Geological Survey where the first 20 feet of subsurface soils and geologic materials are exceptionally sandy. These soils are able to transmit water very quickly from the land surface to the water table. This map category (excellent) is an indicator of how fast contaminants will move and how much water may become contaminated (Andres, 2004). Land use activities or impervious cover on areas of excellent ground-water recharge potential may adversely affect the quality and quantity of ground water in these areas.

The Water Supply Section recommends that the portion of the new development within the excellent ground-water recharge area not exceed 20% impervious cover. Some allowance for augmenting ground-water recharge should be considered if the impervious cover exceeds 20% but is less than 50% of that portion of the parcel within this area. However, the development should not exceed 50% regardless. A water balance calculation (environmental assessment) will be necessary to determine the quantity of clean water to be recharged via a recharge basin (Thornthwaite, 1957). The purpose of an impervious cover threshold is to minimize loss of recharge (and associated increases in storm water) and protect the quality and quantity of ground water and surface water supplies.

The proposed development would change the impervious over from 5% to approximately 7%. The developer provided these numbers on the PLUS application form.

In addition, because the excellent ground water recharge area can so quickly affect the underlying aquifer if contaminants are spilled or discharged across the area, the storage of hazardous substances or wastes should not be allowed within the area unless specific approval is obtained from the relevant State, federal, or local program.

References

- Andres, A. Scott, 2004, Ground-Water Recharge Potential Mapping in Kent and Sussex Counties, Delaware: Delaware Geological Survey Report of Investigations No. 66, p. 14.
<http://www.udel.edu/dgs/Publications/pubform.html#investigations>
- Delaware Department of Natural Resources and Environmental Control (2005): *Source Water Protection Guidance Manual for the Local Governments of Delaware*: Dover, DE, 144 p.
http://www.wr.udel.edu/publications/SWAPP/swapp_manual_final/swapp_guidance_manual_final.pdf
- Kauffman, G.J., Wozniak, S.L., and Vonck, K.J., 2005, *Delaware Ground-Water Recharge Design Manual*: Newark, DE, Water Resources Agency, University of Delaware, p. 31.
<http://www.wr.udel.edu/swaphome/Publications/SWPguidancemanual.html>
- Thornthwaite, C. W., and Mather, J. R., 1957, Instructions and Tables for Computing Potential Evapotranspiration and the Water Balance, Volume x, Drexel Institute of Technology, Laboratory of Climatology.

Appoquinimink School District (PLUS 2007-10-13)

Excellent ground-water recharge potential area is highlighted in green. The parcel under review is outlined in blue.



Water Supply

According to our records, the Parcel Identification # should read as 23-021.00-119 and 13-021.00-008 instead of 23-047.00-001 and 13-021.00-089.

The project information sheets state water will be provided to the project by the City of Middletown via a central public system. Our records indicate that part (tax map number 23-021-00-119) of the project is located within the public water service area granted to the City of Middletown under Certificate of Public Convenience and Necessity (CPCN)

02-CPCN-02. Our files also reflect that Artesian Water Company does not currently hold a CPCN to provide public water to the other part (tax map number 13-021.00-008) of the project. They will need to file an application for a CPCN with the Public Service Commission, if they have not done so already. Information on CPCN requirements and applications can be obtained by contacting the Public Service Commission at 302-739-4247. Should an on-site public well be needed, it must be located at least 150 feet from the outermost boundaries of the project. The Division of Water Resources will consider applications for the construction of on-site wells provided the wells can be constructed and located in compliance with all requirements of the Regulations Governing the Construction and Use of Wells. A well construction permit must be obtained prior to constructing any wells.

Should dewatering points be needed during any phase of construction, a dewatering well construction permit must be obtained from the Water Supply Section prior to construction of the well points. In addition, a water allocation permit will be needed if the pumping rate will exceed 50,000 gallons per day at any time during operation.

All well permit applications must be prepared and signed by licensed water well contractors, and only licensed well drillers may construct the wells. Please factor in the necessary time for processing the well permit applications into the construction schedule. Public and Dewatering well permit applications typically take approximately four weeks to process, which allows the necessary time for technical review and advertising.

Should you have any questions concerning these comments, please contact Rick Rios at 302-739-9944.

Drainage and Stormwater Management

This project is located adjacent to Sandy Branch which is a headwater stream in the Chesapeake Bay watershed. The Chesapeake Bay has been degraded by nutrients and bacteria. The State of Delaware has signed on to a regional agreement to reduce water quality impacts in the Chesapeake Bay and its watershed by approximately 47% and 44% for nitrogen and phosphorus, respectively. Protection of headwater streams can have a significant impact on downstream water quality and should be a priority. If you have any questions about Delaware's Chesapeake Bay program goals and strategy, please contact Jennifer Volk, DNREC Watershed Assessment Section, 302.739.9939.

Wet ponds or wet ponds and infiltration are being proposed to treat stormwater. Because of the parcel's location in an impaired watershed and the amount of impervious surface, the applicants should incorporate more green technology best management practices and

low impact development practices to reduce stormwater flow and meet water quality goals for the Chesapeake Bay.

Two construction projects have been proposed upstream from this site along with the U.S. Route 301 transportation project. Both sites have Sandy Branch as the anticipated outlet which may have significant impact on downstream drainage. We have recommended to the owners that they consider a regional stormwater management approach. It is further recommended that the owners coordinate a meeting to further explore this with the Town of Middletown and Vince Davis at DelDOT.

The Sediment and Stormwater Program ensures sediment and erosion control plans and stormwater plans comply with local land use ordinances and policies, including the siting of stormwater management facilities. However, we do not support placement in resource protection areas or the removal of trees for the sole purpose of placement of a stormwater management facility/practice.

Several schools throughout the State have incorporated an outdoor classroom concept into their properties, typically using their stormwater management and open space. However, this type of activity has typically been coordinated after the fact, usually by a science teacher. It is recommended that you consider this option before construction to reduce costs and save time. Christ the Teacher School in New Castle County, Polytech, and Lake Forest High School are all good examples of outdoor classroom projects that have been successful. If you are interested in including this in your project, contact Dave Twing, Steve Williams or Tom Barthlemeh at DNREC at 302.739.9921. For assistance developing an outdoor classroom curriculum for elementary and high school levels, contact Jennifer Holmes at 302.739.3436.

A detailed sediment and stormwater plan will be required prior to any land disturbing activity taking place on the site. Because the Sediment and Stormwater Program is in the process of revising its State regulations, it would be a good idea to contact the reviewing agency to schedule a pre-application meeting to discuss the sediment and erosion control and stormwater management components of the plan as soon as practicable. The site topography, soils mapping, pre- and post-development runoff, and proposed method(s) and location(s) of stormwater management should be brought to the meeting for discussion. The plan review and approval as well as construction inspection will be coordinated through DNREC. Contact Elaine Webb at (302) 739.9921 for details regarding submittal requirements and fees.

Rare Species

DNREC has not surveyed the project area; therefore, it is unknown if there are State-rare or federally listed plants, animals or natural communities at or adjacent to this project site that would be affected by project activities.

Bog Turtle

A review of our database has revealed that there may be suitable habitat for the federally-listed bog turtle (*Glyptemys muhlenbergii*) associated with wetlands along the tributary to Sandy Branch. If the school is located in the front portion of the property, then bog turtles and their habitat should not be impacted. However, if there are plans to develop lands in the back half of the property or within 300 feet of wetlands associated with the Sandy Branch tributary, surveys will need to be conducted. It is standard procedure to require Phase I surveys for bog turtle habitat if project activities are within 300 feet of potential habitat or if changes to hydrology are expected.

Please note that a Delaware-approved bog turtle surveyor must be used to conduct the surveys. Phase I surveys can be conducted any time of year when snow cover is not present. If potential habitat is found, however, please note there is a time of year restriction during which Phase II surveys for bog turtles must be conducted.

If potential bog turtle habitat is found during Phase I surveys, you are required to either:

1. Completely avoid all direct and indirect project impacts to the wetland, in consultation with the U.S. Fish and Wildlife Service and Delaware Division of Fish and Wildlife;

OR

2. Have Phase II surveys conducted to determine if bog turtles are present. In accordance with Delaware's bog turtle site survey procedures, surveys must be conducted by a State-approved bog turtle surveyor between April 15 and June 15.

Nuisance Geese

If wet ponds exist or are constructed, measures should be taken to discourage high concentrations of resident Canada Geese and Mute Swans. It is unknown if there is a current problem with the existing pond. High concentrations of waterfowl in ponds create water-quality problems, leave droppings on lawn and paved areas and can become

aggressive during the nesting season. Short manicured lawns (such as athletic fields) around ponds provide an attractive habitat for these species. We recommend plantings of tall grasses, native wildflowers, shrubs, and trees at the edge and within a buffer area (10-30 feet) around the perimeter of the pond. Waterfowl do not feel safe when they can not see the surrounding area for possible predators. These plantings should be completed as soon as possible as it is easier to deter geese when there are only a few than it is to remove them once they become plentiful. At this time, we do not recommend using monofilament grids due to the potential for birds and other wildlife to become entangled if the grids are not properly installed and maintained.

The Division of Fish and Wildlife does not provide goose control services, and if problems arise, residents or the home-owners association will have to accept the burden of dealing with these species (e.g., permit applications, costs, securing services of certified wildlife professionals). Solutions can be costly and labor intensive; however, with proper landscaping, monitoring, and other techniques, geese problems can be minimized.

State Fire Marshal's Office – Contact: John Rudd 302-323-5365

These comments are intended for informational use only and do not constitute any type of approval from the Delaware State Fire Marshal's Office. At the time of formal submittal, the applicant shall provide; completed application, fee, and three sets of plans depicting the following in accordance with the Delaware State Fire Prevention Regulation (DSFPR):

Generally, this Agency makes no comments regarding, a Feasibility Plan. The information provided below shall be considered when plans are being designed.

At the time of formal submittal, the applicant shall provide; completed application, fee, and three sets of plans depicting the following in accordance with the Delaware State Fire Prevention Regulation (DSFPR):

a. **Fire Protection Water Requirements:**

- Water distribution system capable of delivering at least 1000 gpm for 1-hour duration, at 20-psi residual pressure is required. Fire hydrants with 800 feet spacing on centers.
- Where a water distribution system is proposed for the site, the infrastructure for fire protection water shall be provided, including the size of water mains for fire hydrants and sprinkler systems.

b. **Fire Protection Features:**

- All structures over 10,000 Sq. Ft. aggregate will require automatic sprinkler protection installed.
- Buildings greater than 10,000 sq.ft., 3-stories or more, over 35 feet, or classified as High Hazard, are required to meet fire lane marking requirements
- Show Fire Department Connection location (Must be within 300 feet of fire hydrant), and detail as shown in the DSFPR.
- Show Fire Lanes and Sign Detail as shown in DSFPR.

c. **Accessibility**

- All premises, which the fire department may be called upon to protect in case of fire, and which are not readily accessible from public roads, shall be provided with suitable gates and access roads, and fire lanes so that all buildings on the premises are accessible to fire apparatus. This means that the access road to the subdivision from the major thoroughfares must be constructed so fire department apparatus may negotiate it.
- Fire department access shall be provided in such a manner so that fire apparatus will be able to locate within 100 ft. of the front door.
- The use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.
- The local Fire Chief, prior to any submission to our Agency, shall approve in writing the use of gates that limit fire department access into and out of the development or property.

d. **Required Notes:**

- Provide a note on the final plans submitted for review to read “ All fire lanes, fire hydrants, and fire department connections shall be marked in accordance with the Delaware State Fire Prevention Regulations”
- Proposed Use
- Alpha or Numerical Labels for each building/unit for sites with multiple buildings/units
- Square footage of each structure (Total of all Floors)
- National Fire Protection Association (NFPA) Construction Type
- Maximum Height of Buildings (including number of stories)
- Townhouse 2-hr separation wall details shall be shown on site plans
- Note indicating if building is to be sprinklered
- Name of Water Provider
- Letter from Water Provider approving the system layout

- Provide Lock Box Note (as detailed in DSFPR) if Building is to be sprinklered
- Provide Road Names, even for County Roads

Preliminary meetings with fire protection specialists are encouraged prior to formal submittal. Please call for appointment. Applications and brochures can be downloaded from our website: www.delawarestatefiremarshal.com, technical services link, plan review, applications or brochures.

Department of Agriculture - Contact: Scott Blaier 698-4500

The Delaware Department of Agriculture is only in favor of constructing the elementary school on the portion of the site that is not subject to the transfer of development rights (TDR) deed restriction.

Right Tree for the Right Place

The Delaware Department of Agriculture Forest Service encourages the developer to use the “Right Tree for the Right Place” for any design considerations. This concept allows for the proper placement of trees to increase property values in upwards of 25% of appraised value and will reduce heating and cooling costs on average by 20 to 35 dollars per month. In addition, a landscape design that encompasses this approach will avoid future maintenance cost to the property owner and ensure a lasting forest resource. Please feel free to contact the Delaware Forest Service at (302) 698-4500 for more information.

Native Landscapes

The Delaware Department of Agriculture and the Delaware Forest Service encourages the developer to use native trees and shrubs to buffer the property from the adjacent land-use activities near this site. A properly designed forested buffer can create wildlife habitat corridors and improve air quality to the area by removing six to eight tons of carbon dioxide annually and will clean our rivers and creeks of storm-water run-off pollutants. To learn more about acceptable native trees and how to avoid plants considered invasive to our local landscapes, please contact the Delaware Department of Agriculture Plant Industry Section at (302) 698-4500.

Public Service Commission - Contact: Andrea Maucher 739-4247

Any expansion of natural gas or installation of a closed propane system must fall within Pipeline Safety guidelines. Contact: Malak Michael at (302) 739-4247.

Department of Education – Contact: John Marinucci 735-4055

1. The DOE supports locating school facilities on parcels with existing or reasonable access to civil infrastructure to include but not limited to:
 - Roads, pedestrian walkways and shared use paths
 - Waste water/sewerage and domestic water
 - Electric, and telecommunications
 - Storm water drainage and conveyance

School sites with public water and sewer utilities or access to public water and sewer utilities are recommended by DOE over sites requiring on-site facilities. This school site appears to offer access to adequate public civil utilities.

2. The DOE supports the State Strategies for Policies and Spending. When considering school facility locations, the DOE considers proximity and access to basic support services as a high priority.

The school location under consideration appears to be within the Town of Middletown incorporated limits and as a result basic support service levels will reflect a commensurate level of service associated with incorporated local jurisdiction services.

3. The DOE supports locating school facilities strategically within the geographic region and/or community the facility is intended to serve in order to:
 - Encourage non-student pedestrian access to the school facility in an effort to reduce vehicle miles traveled to the extent practical
 - Encourage student pedestrian access to the school facility, in order to contain the school's life-cycle operating costs associated with student transportation, as practicable
 - Create education campuses by co-locating educational facilities and services in an effort to reduce life-cycle costs as a result of the co-located schools sharing common spaces, facilities and services.

The school location under consideration appears to be strategically located geographically within the community it is intended to serve. Pedestrian access may be limited, however the DOE understand that it is a challenge to acquire land in a region that is developing as quickly as the Middletown area.

4. As a result, the DOE supports construction of the new elementary school on the unrestricted parcel(s) that is (are) contiguous to the +-113 acre restricted parcel.

The DOE does NOT support construction of school buildings on the restricted parcel of +-113 acres.

5. The Appoquinimink School District must submit a letter to the Department of Education initiating the Use or Acquisition of Lands for School Construction approval process in accordance with Title 29, § 7525, Delaware Code.

Following receipt of this letter and upon filing of an application with the local jurisdiction, the applicant shall provide to the local jurisdiction and the Office of State Planning Coordination a written response to comments received as a result of the pre-application process, noting whether comments were incorporated into the project design or not and the reason therefore.

Thank you for the opportunity to review this project. If you have any questions, please contact me at 302-739-3090.

Sincerely,

A handwritten signature in dark ink, appearing to read "Constance C. Holland". The signature is fluid and cursive, with the first name "Constance" and last name "Holland" clearly distinguishable.

Constance C. Holland, AICP
Director

CC: Town of Middletown